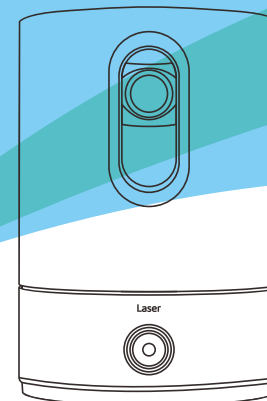




User Manual

Laser Bird Repeller



HBX 30

Laser Technical & Safe Information

WARNING

Laser Safety Hazard Warning

This Hawk Laser HBX30 emits laser light. Laser light is very bright and can potentially cause injury to the eyes if not used correctly. Read all operation and safety information prior to use.

NEVER look into laser or at bright reflections.

NEVER aim the laser beam of HBX30 or the reflection at an aircraft at any distance! Illumination of aircraft, vehicles, etc. is **DANGEROUS!** Do not do it.

DO NOT stare into laser beam or view directly with optical instrument.

WARNING

Light from Hawk Laser HBX30 is very bright! **DO NOT** aim laser at people or vehicles.

NEVER look into the output of the Hawk-Laser HBX30! Viewing the laserlight or a bright reflection can cause potential eye injury.

DO NOT allow unauthorized people to operate the Hawk Laser HBX30. Laser reflections from flat shiny mirror like surface can be as hazardous as the laser beam itself.

Eye injury is theoretically possible if the laser of Hawk Laser HBX30 is aimed at people using telescopes, rifle scopes, spotting scopes, binoculars, cameras or any other optical light gathering instruments.

DO NOT remove or damage any safety labels which are present on Hawk Laser HBX30.

DO NOT attempt to disassemble the Hawk Laser HBX30, this can lead to hazardous exposure.

DO NOT attempt any repair or modification.

DO NOT use if lenses of laser is cracked or broken.

Due to the laser beams low divergence, it makes a small bright spot at very long distance. Aiming a laser at aircraft, vehicles, law enforcement of cials or other situations where vision and situational awareness are critical can cause disruptions of safe operation of these craft, cause dangerous situations.

This class of laser will not cause skin burns, nor start fires. The only potential hazard is to the eyes if instructions for use are not followed.

1. Product Description

The HBX30 is a laser that is developed as a safe, silent and effective tool for bird control. It is designed to chase birds in plants, warehouses, loading docks, tunnels, breezeways, underpasses, stadiums, barns and storage sheds.

The HBX30 has a programmable Pan/Tilt device that can direct the laser beam to project on the desired area and to prevent the laser to project on the unwanted position. Using the controller of HBX30, the desired position can easily be programmed and saved in the HBX30 laser.

2. Hardware Feature

The HBX30 consist of the following parts:

- 1 Power adapter: Provide 12V DC power supply.
- 2 Pan/Tilt device: Direct laser beam to the desired area.
- 3 Controller: Program the moving pattern of the laser beam.
- 4 Junction Box: Connect the DC power supply to the HBX30 laser.



Laser Switch

Laser Indicator



Communication port

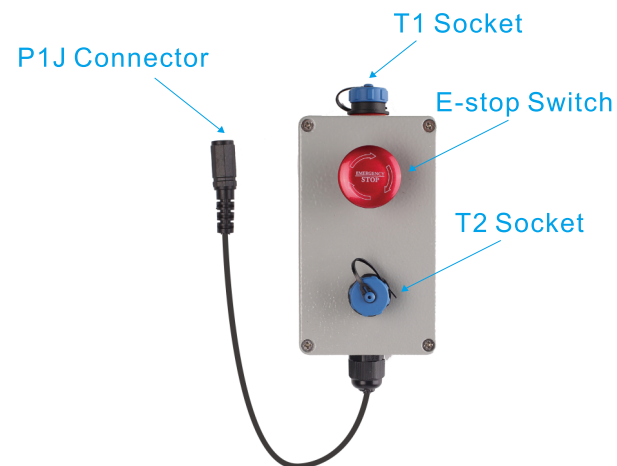
HBX30

1	Laser Switch	Turn on and off the laser beam
2	Laser Indicator	The light is on when the laser is On
3	Communication Port	Connect to controller to program the HBX30
4	Power Supply	DC 12V , Connect to T1 of junction Box



Function Key of Controller

1	Joystick	Direct laser beam to the desire position
2	Preset	Save laser position to HBX30
3	Scan	Sweep laser beam back and forth
4	Speed	Select laser beam moving speed
5	On	Enable laser beam
6	Off	Disable laser beam
7	Run	Run laser beam among preset positions, in sequence mode or in random mode
8	S	Sequence mode, laser beam run from one preset position to another preset position sequentially
9	R	Random mode, laser beam run from one preset position to another preset position randomly



Junction Box

1	E-stop Switch	Emergency Stop Turn on/of power supply of HBX30 laser
2	T1 Socket	Connect to HBX30 laser
3	T2 Socket	Connect to controller to program the HBX30laser
4	P1J Connector	Connect to power adapter, DC12V

3. Technical Specification:

1	Power Supply	DC 12V
2	Operating Conditions	-10°C-40°C
3	Storage Conditions	-20°C-50°C
4	Protection	Ip65
5	Casing	Aluminum Alloy
6	Weight	3Kg

Laser

Module No	HBX30-P500	HBX30-P200
Emitted Power	<500mW	<200mW
Laser Classification	IIIb	IIIb
NOHD	158m	100m
MPE	2.55mW/cm² Exposure duration 0.25 seconds	
Laser Type	Laser Diode	
Wave Length	520nm	
Diameter@aperture	25mm	
Emission	Continuous	
Divergence	<1mrad	
Operation Temperature	-10°C-40°C	
Range	>350 meters	
Lifetime of laser diode	About 5000 Hours	

Pan/Tilt device

1	Pan Range	0°-350°
2	Tilt Range	-35°-0°
3	Total Preset Position	80
4	Running Speed	1-3°/S

4.Set Up and Operation

Installation Guide

Read the safety instruction provided in the user manual before activating the device.

The protection of HBX30 is IP65, The HBX30 can be used indoor or outdoor.

Mount the HBX30 laser on the horizontal and flat surface.

DO NOT mount the laser on a surface which is subjected to vibration.

DO NOT hold the rotating part of HBX30 laser when it is running.

Make sure the “Pan” have enough space to rotate, if they are stuck, the transmission part will be damaged.

The HBX30 should be mounted and the laser beam should be programmed so that people have no chance to stare into the laser beam.

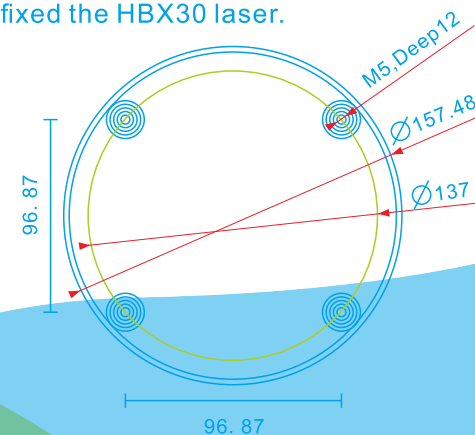
DO NOT let the laser beam cross public roads, pathways, sidewalks or parking spaces.

The HBX30 laser can be mounted up side down if used indoor.

Do Not point the laser beam at the room entrances if it is mounted indoor.

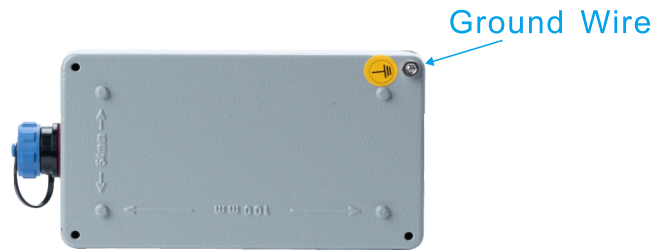
Installation:

1. Mount the HBX30 laser on flat surface.
Use four M5 screw to fixed the HBX30 laser.



2. Mount the junction box on the wall.
3. Connect ground wire to the junction box.

There is a screw on the back side of the junction box, the screw must be connected to ground wire.



4. Plug the cable connector of HBX30 to T1 of the junction box.
5. Connect P1J connector of junction box to DC 12V power supply.
6. Turn on switch on junction box to power the HBX30 laser.
7. Connect the controller to the communication port of HBX30 or T2 of junction box to program the HBX30 laser.

Unplug controller from the communication port after the program is finished.

Programming the HBX30 laser

Laser Control:

The two key **[On]** and **[Off]** on the controller is use to enable or disable HBX30 laser, press **[On]** will enable the laser and press **[off]** will disable the laser. Once the laser is disable and the controller is unplugged from HBX30 laser, the laser cannot be turned on again, this will prevent unauthorized people to turn on the laser.

The two key **[On]** and **[Off]** is used as the security master control of the HBX30 laser

The laser switch on HBX30 turn on or off the laser beam.

Programming:

1. Connect the plug of controller to the communication port of HBX30 or to T2 of Junction box.
2. Use joystick of the controller to direct laser beam to the desired position.

3. Press numeric key and then **[Preset]** key to save the position. For example:

Press **[1] [Preset]** to save the No1 position.

Press **[2] [Preset]** to save the No2 position.

4. Repeat step 2 and step 3 to save more position. Total 200 positions can be saved, from No1 to No 200.

5. To remove all the preset position, press **[2] [2] [0] [Preset]**

6. The **[S]** and **[R]** are running mode selection. keys

Press **[S]** then press **[RUN]** the laser beam will move from one preset point to another preset point in Sequence: No1...No2...No3....No200... No1...No2....

Press **[R]** then press **[RUN]** the laser beam will move from one preset point to another preset point randomly .

7. The **[Speed]** key is used to change the running speed. The HBX30 laser has 4 running speed, press the **[Speed]** key the running speed will be changed.

Note:

Press any key on the controller will be effective only when the Pan/Tilt is not running. When the Pan/Tilt is running, pressing any key on the controller will first stop the Pan/Tilt, the key must be pressed again to enter the command to the HBX30 laser.

Operation:

At start up, the HBX30 will perform a calibration sequence, the Pan/Tilt will seek the "origin" position, it will take about 30 seconds, at this moment the laser beam can't be turn on to prevent it pointing to people. Once the Pan/Tilt device finish seeking the "Origin" position, the HBX30 is ready to run the following three operation mode:

1 Manual mode: Use the joystick to move the laser beam.

2 Run mode: The laser beam will move from one preset position to another preset position.

